REMARKS

This application has been carefully reviewed in light of the Office Action dated March April 11, 2003 (Paper No. 9). Claims 1 to 23 are in the application, of which Claims 1, 9, 17, 19 and 23 are independent. Claims 1, 2, 5, 8 to 10, 13, 16, 17 and 19 are being amended, and Claim 23 is being added, herein. Reconsideration and further examination are respectfully requested.

The Office Action contains an objection to the title. The title is being amended herein. In addition, Claims 1, 5, 9, 13, 17 and 19 were rejected under 35 U.S.C. §112, second paragraph. In response, Applicant has amended the claims as deemed appropriate. Accordingly, reconsideration and withdrawal of the objection to the title and rejection claims are respectfully requested.

By the Office Action, Claims 1 to 5 were rejected under 35 U.S.C. §102(e) over U.S. Patent 6,144,958 (Ortega), and Claims 6 to 8 were rejected under 35 U.S.C. § 103(a) over Ortega. The Office Action indicates that Claims 9 to 22 were rejected "under the same rationale" as Claims 1 to 8.[1]

The present invention generally concerns searching a knowledge base of information in response to a query, and returning both matched units and linguistically-matching context data. More particularly, the search results can include units that match units of the query as well as context data having a linguistic relationship to one or more of the matching units.

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[1] While the Office Action indicates Claims 1 to 9, it is believed that Claims 1 to 8 was intended.

By virtue of this arrangement, a response to an input query can comprise information retrieved from the query as well as information that is related to the retrieved information to provide additional, contextual information that may be of interest to the requester.

CLAIMS 1 TO 16

Turning to the specific language of the claims, Claim 1 defines an apparatus for searching a database for data in the form of units of a natural language and for generating output data representing the result of a search. The apparatus comprises an interface means, matching means, generating means and forming means. The interface means receives an input query in the form of units of the natural language and outputs the results of the search. The matching means searches for and identifies any matches between the units of the input query and the units of the data so as to generate reference data. Where there are unmatched units in the reference data, the generating means generates context data in the form of one or more unmatched units of the reference data, each unmatched unit having a predefined syntactic relationship to one or more matched units. The forming means forms output data as any matched units and any respective context data.

The applied art, namely Ortega, is not seen to teach or to suggest generating context data in the form of unmatched units each of which has a predefined syntactic relationship to one or more of the matched units, and forming output data comprising the matched units and the context data.

Ortega is seen to describe identifying terms that have a similar spelling to

unmatched terms in a query. More particularly and where a term in the query does not yield a match from a search, the unmatched term is replaced with the term having the similar spelling, and the search is repeated using the similarly-spelled term in the query. (See Ortega, Abstract, Figure 4, and col. 8, line 10 to col. 10, line 48.) Thus, Ortega is seen to address misspellings in a query and is seen to do so by matching unmatched terms with similarly-spelled terms. That is, Ortega is seen to operate on unmatched terms and is not seen to match matched terms with syntactically-related terms. Ortega is merely seen to replace the unmatched terms in a query.

Replacing a term in a query with a similarly-spelled term and repeating a query using the modified query is not seen to be the same as generating reference data by searching for and identifying matches between the an input query and information in a database, and including in the search output context data generated from unmatched units in the reference data that have a predefined syntactic relationship to a matched unit in the reference data.

Therefore, for at least the foregoing reasons, Claim 1 is believed to be in condition for allowance. Further, Applicants submit that Claim 9 is believed to be in condition for allowance for at least the same reasons.

Claims 2 to 8, 10 to 16, 21 and 22 are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

CLAIMS 17 TO 22

Claim 17 defines a data retrieval apparatus for retrieving desired information units of a natural language from a plurality of available information units. The apparatus comprises an input means, matching means, generating means and output means. The input means inputs a query in units of the natural language, and the matching means searches for and identifies any matches between the units of the input query and the units of the available information units to identify the best matches between the input query and the plurality of available information units. The generating means receives the best matches and, where there are unmatched units in one or both of the input query and the information units, generates context data in the form of one or more unmatched units each having a predefined linguistic relationship to one or more of the matched units. The output means outputs desired information units as the best matches and any respective said context data.

The applied art, namely Ortega is not seen to teach or to suggest at least the features of generating context data in the form of one or more unmatched units each having a predefined linguistic relationship to one or more matched units identified in a search between units of the input query and the plurality of available information units, and outputting the desired information units and the generated context data.

As discussed above, Ortega is merely seen to operate on unmatched terms, which are replaced with similarly-spelled terms, and then to repeat the query using the similarly-spelled terms. This is not seen to be the same as generating context data in the form of unmatched units each of which has a predefined linguistic relationship to one or more matched units.

Therefore, for at least the foregoing reasons, Claim 17 is believed to be in condition for allowance. Further, Applicants submit that Claim 19 is believed to be in condition for allowance for at least the same reasons.

Claims 18 and 20 are dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

Claim 23

In addition to generating context data in the form of unmatched units linguistically-related to matched units, as discussed above, New Claim 23 includes, among others, the features of generating the context data in accordance with one or more rules defining contextually important modification relationships between matched and unmatched units, and forming output data as a layered hierarchical structure with a head unit with sublayers comprising context data for the head unit, together with matched units, sublayers of which comprising context data linguistically-related with the matched units.

At page 5 of the Office Action, it is stated that Ortega does not explicitly teach [forming output data as a layered hierarchical structure identifying sets of data by their context data.] However, the Office Action states that this is well known in the art.

Applicant submits that the above-identified features of Claim 23 are patentable over the applied art, and respectfully requests the Examiner provide adequate evidence to support the position taken in the Office Action, should the Examiner maintain this ground of rejection of the claims.

CONCLUSION

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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